

CLAIMS:

1. A radially anisotropic ring magnet characterized by having throughout the magnet an angle of 80 to 100° between a center axis thereof and a radial anisotropy imparting direction.
2. The radially anisotropic ring magnet of claim 1 which is characterized by having, on a plane perpendicular to the center axis thereof, a magnet powder average degree of orientation with respect to the radial direction of at least 80%.
3. The radially anisotropic ring magnet of claim 1 or 2 which is characterized by having a length in the direction of the center axis and an inside diameter such that the length divided by the inside diameter is at least 0.5.
4. A method of manufacturing radially anisotropic ring magnets in which a magnet powder packed into a cavity in a cylindrical magnet-forming mold having a core composed at least in part of a ferromagnetic material with a saturation magnetic flux density of at least 5 kG is pressed under the application of an orienting magnetic field by a horizontal magnetic field vertical compacting process; the method being characterized by carrying out at least one of the following operations (i) to (v):
 - (i) rotate the magnet powder a given angle in the circumferential direction of the mold during application of the magnetic field,
 - (ii) rotate the magnet powder a given angle in the circumferential direction of the mold following application of the magnetic field, then again apply a magnetic field,
 - (iii) rotate a magnetic field-generating coil a given angle in the circumferential direction of the mold with respect to the magnet powder during application of the magnetic field,

(iv) rotate a magnetic field-generating coil a given angle in the circumferential direction of the mold with respect to the magnet powder following application of the magnetic field, then again apply a magnetic field,

5 (v) use a plurality of coil pairs to first apply a magnetic field with one coil pair, then apply a magnetic field with the other coil pair
so as to apply to the magnet powder a magnetic field from a plurality of directions rather than one direction and thereby
10 manufacture in a pressing operation a radially anisotropic ring magnet having throughout the magnet an angle of 80 to 100° between a center axis thereof and a radial anisotropy imparting direction.

15 5. The method of manufacturing radially anisotropic ring magnets according to claim 4 which is characterized in that, if the packed magnet powder is rotated, such rotation is effected by rotating at least the core, die or punch of the mold in the circumferential direction thereof.

20 6. The method of manufacturing radially anisotropic ring magnets according to claim 4 which is characterized in that, if the packed magnet powder is rotated after application of a magnetic field, the ferromagnetic core and the magnet powder
25 have remanent magnetization values of at least 50 G and the magnet powder is rotated by rotating the core in the circumferential direction.

30 7. The method of manufacturing radially anisotropic ring magnets according to any one of claims 4 to 6 which is characterized in that the magnetic field generated during the horizontal magnetic field vertical compacting step is from 0.5 to 10 kOe.

35 8. The method of manufacturing radially anisotropic ring magnets according to any one of claims 4 to 7 which is characterized in that the magnetic field generated by a

horizontal magnetic field vertical-compacting press just before or during pressing is from 0.5 to 3 kOe.

9. The method of manufacturing radially anisotropic ring
5 magnets according to any one of claims 4 to 8 which is characterized in that, after applying a magnetic field one or more times, the magnet powder is rotated 60 to $120^\circ + n \times 180^\circ$ (where n is an integer ≥ 0) under the application of a coil-generated magnetic field of at least 0 but less than 0.5
10 kOe, the latter magnetic field being from $1/20$ to $1/3$ as large as the magnetic field previously applied, and the magnet powder is pressed during or after said application.